

U.S. Patent Application Serial No. 10/769,565
Docket No. 59419-010102

AMENDMENTS TO THE CLAIMS

Claim 1 (withdrawn): A method for controlling a flavivirus entry into a cell, comprising administering to the cell an agent functionally interfering with a flavivirus receptor protein, the flavivirus receptor protein being an integrin.

Claim 2 (withdrawn): The method of claim 1, wherein the integrin comprises integrin subunit $\beta 3$ or integrin subunit αV .

Claim 3 (withdrawn): The method of claim 1, wherein the integrin is an $\alpha V\beta 3$ integrin.

Claim 4 (withdrawn): The method of claim 3, wherein the flavivirus receptor protein is polypeptide from Vero Cells, having approximately a 105KDa molecular weight and comprising portions with a sequence substantially homologous to SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4 and SEQ ID NO: 5.

Claim 5 (withdrawn): The method of claim 1, wherein the agent functionally interfering with a flavivirus receptor protein is a functional blocking antibody against the integrin.

Claim 6 (withdrawn): The method of claim 1, wherein the agent functionally interfering with a flavivirus receptor protein is a competitive ligand for the integrin.

Claim 7 (withdrawn): The method of claim 6, wherein the competitive ligand is an RGD peptide.

Claim 8 (withdrawn): The method of claim 6, wherein the competitive ligand is a natural ligand selected from the group consisting of fibronectin, vitronectin, laminin and chondroitin.

Claim 9 (withdrawn): The method of claim 6, wherein the flavivirus is a member of Japanese encephalitis serocomplex.

Claim 10 (withdrawn): The method of claim 9, wherein the flavivirus is West Nile Virus.

Claim 11 (withdrawn): The method of claim 1, wherein the cell is a cell of a vertebrate.

Claim 12 (withdrawn): A method for controlling flavivirus entry into a cell, comprising administering to the cell an agent interfering with the expression of a flavivirus receptor protein, the receptor protein being integrin.

Claim 13 (withdrawn): The method of claim 12, wherein the agent is a siRNA against the integrin.

U.S. Patent Application Serial No. 10/769,565
Docket No. 59419-010102

Claim 14 (withdrawn): A kit for controlling entry of a flavivirus into a cell, the kit comprising:
the flavivirus; and
an agent functionally interfering with an integrin,
the flavivirus and the interfering agent to be used according to the method of claim 1.

Claim 15 (withdrawn): The kit of claim 14, wherein the agent functionally interfering with an integrin is a functional blocking antibody against the integrin.

Claim 16 (withdrawn): The kit of claim 14, wherein the agent functionally interfering with an integrin is a competitive ligand for the integrin.

Claim 17 (withdrawn): A kit for controlling entry of a flavivirus into a cell, the kit comprising:
the flavivirus; and
an agent interfering with expression of an integrin,
the first flavivirus and the interfering agent to be used according to the method of claim 12.

Claim 18 (withdrawn): The kit of claim 17, wherein the interfering agent interfering with the expression of an integrin is an siRNA against the integrin.

Claim 19 (withdrawn): A method for controlling a flavivirus entry into a cell, the cell having a plasma membrane, the method comprising administering to the cell an interfering agent functionally interfering with an ATPase in the plasma membrane of the cell.

Claim 20 (withdrawn): The method of claim 19, wherein the interfering agent is a functional blocking antibody against the ATPase.

Claim 21 (withdrawn): The method of claim 19, wherein the agent functionally interfering with a flavivirus receptor protein is a competitive ligand for the ATPase.

Claim 21 (withdrawn - currently amended): A kit for controlling entry of a flavivirus into a cell, the cell having a plasma membrane, the kit comprising:

the flavivirus; and
an agent functionally interfering with an ATPase located in the plasma membrane of the cell,

U.S. Patent Application Serial No. 10/769,565
Docket No. 59419-010102

the flavivirus and the interfering agent to be used according to the method of claim 19.

Claim 22 (withdrawn): The kit of claim 21, wherein the interfering agent is a functional blocking antibody against the ATPase.

Claim 23 (withdrawn): A method for controlling a flavivirus entry into a cell, comprising administering to the cell an agent functionally interfering with a flavivirus receptor protein, the receptor protein being a neurotensin receptor.

Claim 24 (withdrawn): The method of claim 23, wherein the agent functionally interfering with a flavivirus receptor protein is a functional blocking antibody against the neurotensin receptor.

Claim 25 (withdrawn): The method of claim 23, wherein the agent functionally interfering with a flavivirus receptor protein is a competitive ligand for the neurotensin receptor.

Claim 26 (withdrawn): The method of claim 25, wherein the competitive ligand is neurotensin.

Claim 27 (withdrawn - currently amended): A kit for controlling entry of a flavivirus into a cell, the kit comprising:

the flavivirus; and

an agent functionally interfering with a neurotensin receptor located in the plasma membrane of the cell,

the flavivirus and the interfering agent to be used according to the method of claim 23.

Claim 28 (cancelled)

Claim 29 (cancelled)

Claim 30 (cancelled)

Claim 31 (cancelled)

Claim 32 (cancelled)

Claim 33 (cancelled)

Claim 34 (cancelled)

Claim 35 (cancelled)

Claim 36 (cancelled)

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U.S. Patent Application Serial No. 10/769,565
Docket No. 59419-010102

Claim 37 (cancelled)

Claim 38 (cancelled)

Claim 39 (cancelled)

Claim 40 (cancelled)

Claim 41 (cancelled)

Claim 42 (cancelled)

Claim 43 (cancelled)

Claim 44 (withdrawn): A method for diagnosing a flavivirus infection in a vertebrate susceptible to be infected by the flavivirus, the method comprising:

contacting a sample tissue from the vertebrate, with an integrin or neurotensin protein associated with an identifier;

detecting presence or absence of a flavivirus-integrin complex or flavivirus-neurotensin complex by detecting presence of the identifier.

Claim 45 (withdrawn): A kit for the diagnosis of flavivirus infection in a vertebrate, susceptible to be infected with the flavivirus, the flavivirus exhibiting an envelope protein comprising a domain III, the kit comprising:

at least one agent able to bind the domain III, associated with an identifier, and

one or more reagents able to detect the identifier,

the at least one agent able to bind domain III and the one or more reagents to be used according to the method of claim 44.

Claim 46 (withdrawn): A diagnostic method to analyze a cell susceptibility to flavivirus infection, the method comprising

U.S. Patent Application Serial No. 10/769,565
Docket No. 59419-010102

contacting the cell with an identifier for the presence or expression of an integrin, neurotensin receptor and or ATP-ase; and

detecting the presence of the identifier.

Claim 47 (withdrawn): A kit to analyze a cell susceptibility to flavivirus infection, the kit comprising:

an identifier for the presence or expression of an integrin, neurotensin receptor and or ATP-ase; and

a reagent able to detect the presence of the identifier,

the identifier and the reagent to be used in the method of claim 46.

Claim 48 (withdrawn): Isolated and purified polypeptide from Vero Cells, having approximately a 105KDa molecular weight and comprising portions with a sequence substantially homologous to SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4 and SEQ ID NO: 5 .

Claim 49 (withdrawn): A polypeptide having a sequence substantially homologous to SEQ ID NO:20 or SEQ ID NO: 21.

Claim 50 (withdrawn): An antibody against a polypeptide from Vero Cells, having approximately a 105KDa weight and comprising portions with a sequence substantially homologous to SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4 and SEQ ID NO:5.

Claim 51 (withdrawn): An antibody against a polypeptide having a sequence substantially homologous to SEQ ID NO:19 or SEQ ID NO: 21.

Claim 52 (original): A method for controlling entry of a flavivirus into a cell, the flavivirus exhibiting a flavivirus envelope protein, the flavivirus envelope protein comprising a domain III of the flavivirus envelope protein, the method comprising administering to the cell an agent functionally interfering with the domain III of the flavivirus envelope protein.

Claim 53 (new): The method of claim 52, wherein the domain III has a sequence substantially homologous to SEQ ID NO: 20 or SEQ ID NO: 21.

Claim 54 (new): The method of claim 52, wherein the agent hybridized to the Domain III has a sequence substantially homologous to SEQ ID NO: 20 or SEQ ID NO: 21.

U.S. Patent Application Serial No. 10/769,565
Docket No. 59419-010102

Claim 55 (original): A method for treating a flavivirus infection in a vertebrate, the flavivirus exhibiting a flavivirus envelope protein, the flavivirus envelope protein comprising a domain III, the method comprising:

administering to the vertebrate a pharmaceutically effective amount of an agent functionally inhibiting the domain III of the envelope protein of the flavivirus.

Claim 56 (new): The method of claim 55, wherein the domain has a sequence substantially homologous to SEQ ID NO: 20 or SEQ ID NO: 21.

Claim 57 (original): The method of claim [31]55, wherein the agent is a functional blocking antibody against the domain III.

Claim 58 (original): The method of claim [31]55, wherein the agent is a competitive ligand of domain III.

Claim 59 (original): The method of claim [31]55, wherein the flavivirus is a member of the Japanese encephalitis serocomplex.

Claim 60 (original): The method of claim [35]59, wherein the flavivirus is West Nile Virus.

Claim 61 (original): The method of claim [31]55, wherein the vertebrate is a human being.

Claim 62 (original): Pharmaceutical composition for the treatment of a flavivirus infection in a vertebrate, the flavivirus exhibiting an envelope protein comprising a domain III, the pharmaceutical composition comprising:

a pharmaceutically effective amount of an agent functionally inhibiting the domain III of the envelope protein and a pharmaceutically acceptable carrier, vehicle or auxiliary agent.

Claim 63 (original): The pharmaceutical composition of claim [38]62, wherein the interfering agent is a functional blocking antibody against the domain III.

Claim 64 (original): The pharmaceutical composition of claim [40]62, wherein the interfering agent is competitive ligand for the domain III.

Claim 65 (new): The pharmaceutical composition of claim 62, wherein the interfering agent is a functional sequence substantially homologous to SEQ ID NO: 20 or SEQ ID NO: 21.

U.S. Patent Application Serial No. 10/769,565
Docket No. 59419-010102

Claim 66 (original): A method for inducing immunity to a flavivirus in a vertebrate susceptible to infection of the flavivirus, the flavivirus exhibiting an envelope protein comprising a domain III, the method comprising:

administering to the vertebrate an immunogenic amount of a polypeptide comprising the domain III of the envelope protein of the flavivirus.

Claim 67 (new): The method of claim 66, wherein the domain III comprises a portion having a sequence substantially homologous to SEQ ID NO: 20 or SEQ ID NO: 21.

Claim 68 (new): The method of claim 66, wherein the polypeptide comprises sequence substantially homologous to SEQ ID NO: 20 or SEQ ID NO: 21.

Claim 69 (new): The method of claim 66 further comprising the step of diagnosing the flavivirus exhibiting an envelope protein domain III, wherein the diagnosis is accomplished using:

at least one agent able to bind to the domain III associated with an identifier; and

at least one reagent able to detect the identifier.

Claim 70 (original): A vaccine for a flavivirus, the flavivirus exhibiting an envelope protein comprising a domain III, the vaccine comprising, as an active agent, a polypeptide comprising the domain III of the envelope protein of the flavivirus.